IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	Robert Aigner et al.
Serial No.:	10/808,949
Date Filed:	March 25, 2004
Examiner:	Anthony D. Tugbang
Group Art Unit:	3729
Title:	**A METHOD OF PRODUCING A PIEZOELECTRIC COMPONENT**

MAIL STOP – APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REPLACEMENT APPEAL BRIEF

Further to the notice of appeal submitted on October 21, 2005, Appellants hereby submit this appeal brief according to §41.37.

APPELLANT'S BRIEF (37 C.F.R. § 41.37)

This brief is submitted in support of Appellants' notice of appeal from the decision dated October 11, 2005 of the Examiner finally rejecting claims 1-40 of the subject application.

I. REAL PARTY IN INTEREST

The real party in interest is:

Infineon Technologies AG
St.-Martin-Str. 53
Munich, GERMANY 81669

by virtue of an assignment as duly recorded in the Assignment Branch of the U.S. Patent and Trademark Office.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals or interferences.

III. STATUS OF CLAIMS

The application as originally filed contained 30 claims (claims 1-30). Claim 1 has been amended, Claim 2 has been canceled, and Claims 3-30 have been withdrawn due to an election restriction requirement. Claims 31-40 were newly added during prosecution in a Response to Office Action mailed May 6, 2005, however, were withdrawn by Examiner in the Final Office Action mailed July 27, 2005. Thus, claims 1 and 3-40 are pending. Claims 3-40 are withdrawn from consideration. Claim 2 was cancelled. Claim 1 has been rejected. Appellants appeal the rejection of Claim 1 of the present application. This claim is reproduced in Appendix A.

IV. STATUS OF AMENDMENTS

A first office action was issued August 27, 2004 in which claims 1-30 were subject to an election/restriction requirement. Appellants submitted a response to office action mailed September 22, 2004 electing to prosecute Claims 1-9. Claims 10-30 were withdrawn without prejudice. A second office action was issued December 14, 2004, withdrawing the previous election/restriction requirement dated August 27, 2004, and in which Claims 1-30 were subject to a new election/restriction requirement, along with a Species election requirement. Appellants submitted a response to the second office action mailed January 5, 2005 electing to prosecute Claims 1-9 and Species A drawn to forming an opening in the piezoelectric layer, Claim 2.

A third office action was issued February 8, 2005 in which Claim 1 was objected to due to informalities, and also rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent 3,590,287 issued to Don A. Berlincourt ("Berlincourt"). Claim 2 was rejected under 35 U.S.C. 103(a) as being unpatentable over Berlincourt in view of U.S. Patent 4,503,350 issued to Hiroshi Nakatani Nakatani ("Nakatani"). Appellants filed a response May 6, 2005, arguing patentability of all pending claims, amending Claim 1, canceling Claim 2, and adding new Claims 31-40. A final office action was issued July 27, 2005, where the Examiner withdrew Claims 31-40 for being directed to an invention independent or distinct from the invention originally claimed. Claim 1 was rejection under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,263,550 issued to Dieter Seipler et al. ("Seipler") in view of Berlincourt. Appellants filed a response to the final office action mailed September 26, 2005, arguing patentability of Claim 1, and requesting reinstatement of Claims 31-40.

An Advisory Action was issued October 11, 2005 in which the rejections in the final office action were maintained and newly added Claims 31-40 were not reinstated. Appellants filed a Notice of Appeal on October 21, 2005. The status of the claims are as follows:

Claims allowed:	none	Claims cancelled:	2
Claims rejected:	1	Claims Withdrawn:	31-40
Claims objected:	none		

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 concerns a method for producing a piezoelectric component containing at least two stacked crystal filters (Fig. 1E, 30, 32). *See*, for example, specification page 2, paragraph [0002].

The method comprises the following steps:

a) providing a substrate (Figs. 1A-1E, 10); *See*, for example, specification page 15, paragraph [0056].

b) producing at least one bottom electrode (14) on the substrate (10) from a first electrically conductive layer applied on the substrate (10); *See*, for example, specification page 15, paragraph [0056].

c) applying a layer stack (16, 18, 20, 22) on the substrate (10) at least in a region of the bottom electrode (14), in which the layer stack comprises, beginning with the bottommost layer, a first piezoelectric layer (16), a second electrically conductive layer (18), a second piezoelectric layer (20) and a third electrically conductive layer (22); *See*, for example, specification page 15, paragraph [0058].

d) producing at least a first opening (Fig. 1D, 70) in the third electrically conductive layer (22) and the second piezoelectric layer (20) to provide a contact hole for the second electrically conductive layer (18), *See*, for example, specification page 15, paragraph [0059].

and producing second openings (Fig. 1E) in at least the third electrically conductive layer (22) in such a way that at least two stacked crystal filters (30, 32) are produced; *See*, for example, specification page 16, paragraph [0061]- page 17, paragraph[0062].

e) contact-connecting the third electrically conductive layer (22). *See*, for example, specification page 16, paragraph [0061]- page 17, paragraph[0062].

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,263,550 issued to Dieter Seipler et al. ("Seipler") in view of Berlincourt. However, Appellants do not believe that the cited references teach all the limitations of Claim 1, and anticipate the claimed invention.

VII. ARGUMENT

The Examiner stated that the references Seipler and Berlincourt each are considered by one of ordinary skill in the art to be in the same technical field with applicant's own invention because they both are directed to stacked piezoelectric layers and each reference is reasonably pertinent to the particular problems associated with stacked piezoelectric layers manufactured for a piezoelectric component. Applicants respectfully disagree.

For a proper rejection under 35 U.S.C. §103, it has to be determined what is prior art. To this end, two criteria have evolved, (1) whether the art is from the same filed of endeavor, regardless of the problem addressed, and (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved. *In re Deminski,* 796 F.2d 436, 442, 230 USPQ 313, 315 (Fed. Cir. 1986); *In re Wood,* 599 F.2d 1032, 1036, 202 USPQ 171, 174 (CCPA 1979). The present invention is directed to "a piezoelectric component containing at least two stacked crystal filters" and not to a piezoelectric component per se. The body of the claim includes the language "*producing second openings in at least the third electrically conductive layer in such a way that at least two stacked crystal filters are produced.*" Thus Applicants' invention is directed to stacked crystal filters using piezoelectric layers. The fact that the claim uses the term "piezoelectric component" does not automatically define the technical field of the invention and, thus, include any type of piezoelectric device within this technical field. Moreover, the claim language limits the term "piezoelectric component" to such components that include at least "two stacked crystal filters." The claim is, thus, clearly directed to stacked crystal filters. Stacked crystal filters are not related to piezoelectric actuators. A piezoelectric actuator is used to provide for mechanical movement whereas a stacked crystal filter is used in an electronic circuit, for example, to limit or select a predefined bandwidth. Thus, a piezoelectric actuator is not within the same field of endeavor.

Moreover, a piezoelectric actuator as disclosed in Seipler is not reasonably pertinent to the particular problem of producing stacked crystal filters. Such crystal filters are used in mobile communication whereas piezoelectric actuators are used, for example, in fuel injectors in a combustion engine. These technologies are so far from each other that a person

of ordinary skill in the art would not be motivated to combine any type of aspect of these technologies.

Hence Applicants believe that Seipler is not proper prior art and, therefore, a person skilled in the art would not combine Seipler with Berlincourt.

Moreover, Seipler does not disclose the step of producing second openings in at least the third electrically conductive layer in such a way that at least two stacked crystal filters are produced. The Examiner stated that Seipler shows the "second openings" in form of any of the openings 11, 12, 13. However, the claim clearly states that the second openings are formed in such a way that at least two stacked crystal filters are produced. These openings are shown in Fig. 1E of the present application and they create the two stacked crystal filters 30 and 32.

The openings of Seipler do not create two stacked crystal filters because Seipler is not related art as stated above. Moreover, these openings are not creating two separate entities at all, for example, two actuators. Thus, it is unclear how Seipler at least teaches to create two devices by means of the openings 11, 12, 13. Seipler merely teaches to create openings to provide for connecting of the different layers. Seipler does not teach to use openings to divide a device into two separate devices. Moreover it is completely unclear in what a combination of Seipler and Berlincourt would result. Even if these references were combined by a person skilled in he art, which Applicants do not concede, such a combination would not even remotely result in two stacked crystal filters. Due to the fact that Seipler does not teach to separate a piezoelectric stack into two stacks, a combination of Seipler and Berlincourt will not result in two stacked crystal filters.

Thus, Applicants respectfully request allowance of independent claim 1 in view of the prior art.

SUMMARY

Applicants believe there are no fees due at this time, however, the Commissioner is hereby authorized to charge any fees necessary or credit any overpayment to Deposit Account No. 50-2148 of Baker Botts L.L.P.

Respectfully submitted,

BAKER BOTTS L.L.P. (31625)

Date: June 14, 2007

By: _____

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APPENDIX A - CLAIMS INVOLVED IN APPEAL

1. (Previously Presented) A method for producing a piezoelectric component containing at least two stacked crystal filters, comprising the following steps:

a) providing a substrate;

b) producing at least one bottom electrode on the substrate from a first electrically conductive layer applied on the substrate;

c) applying a layer stack on the substrate at least in a region of the bottom electrode, in which the layer stack comprises, beginning with the bottommost layer, a first piezoelectric layer, a second electrically conductive layer, a second piezoelectric layer and a third electrically conductive layer;

d) producing at least a first opening in the third electrically conductive layer and the second piezoelectric layer to provide a contact hole for the second electrically conductive layer, and producing second openings in at least the third electrically conductive layer in such a way that at least two stacked crystal filters are produced;

e) contact-connecting the third electrically conductive layer.

2. (Cancelled)

APPENDIX B - EVIDENCE

NONE

APPENDIX C: RELATED PROCEEDINGS

NONE